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Attorney Docket No. 5512.1

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:
Spotnitz, et al

Group Art Unit: 3639

Serial No. 09/821,553

Examiner: I. Borissov

Filed: March 29, 2001

For: METHOD OF DOING BUSINESS: CUSTOMER-DRIVEN
DESIGN OF A CHARGE STORAGE DEVICE

VIA FACSIMILE
571-273-8300
Total Pages: 22

SUPPLEMENTAL APPEAL BRIEF

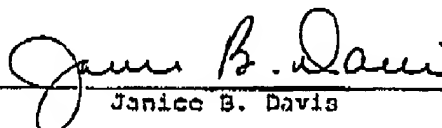
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Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is filed in response to the order of the
Board of Patent Appeals and Interferences, dated October 17,
2005.

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile
transmitted to the United States Patent and Trademark Office on
October 24, 2005.


Janice B. Davis

I. REAL PARTY IN INTEREST

Battery Design Co. is the real party in interest as the assignee of record in the instant application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF THE CLAIMS

Claims 1-5 and 7-12 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,016,047 ("Notten") in view of the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models are kept confidential from customers." Furthermore, Claims 1-5 and 7-12 are the subject of this Appeal.

IV. STATUS OF AMENDMENTS

No Claim was amended after the Final Rejection and prior to this Appeal.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following is a concise explanation of the subject matter defined in independent Claims 1, and 7.

According to Claim 1, the instant invention is a method for designing a charge storage device (CSD). (Specification, Page 7, Lines 23-24). The method includes the following steps:

providing more than one model of a charge storage device, the model adapted to convert at least one CSD customer inputted requirement selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost into at least one CSD design (Specification, Page 8, Lines 1-3 and Page 16, Lines 1-5);

providing an interface, the interface being adapted to pass the CSD customer inputted requirement to the model, the interface being adapted to pass CSD design from the model, and the interface being adapted to hide the model (Specification, Page 8, Lines 4-8);

wherein the CSD customer addresses the interface with the CSD customer inputted requirement, the interface directs the CSD customer inputted requirement to at least one of the models, the model generates the CSD design that passes through the interface to the CSD customer (Specification, Page 8, Lines 8-11).

According to Claim 7, the instant invention is a method for designing a charge storage device (CSD). (Specification, Page 8, Lines 13-14). The method includes the following steps:

providing a CSD customer interface adapted for defining a CSD customer inputted test procedure for a desired charge storage device and defining a CSD customer inputted requirement for the charge storage device, the CSD customer inputted requirement being selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost (Specification, Page 8, Lines 14-18 and Page 16, Lines 1-5);

providing a plurality of charge storage device models (Specification, Page 8, Lines 18-19);

providing a routine capable of selecting at least one of the charge storage device models (Specification, Page 8, Lines 19-21);

executing a simulation wherein the CSD customer test procedure, the CSD customer requirement, and the selected charge storage device model are combined to render a custom charge storage device design and the models are hidden from the CSD customer (Specification, Page 8, Lines 21-24);

storing the custom charge storage device design (Specification, Page 8, Line 24); and

outputting the custom charge storage device design (Specification, Page 9, Lines 1-2).

VI. GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-5 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,016,047 ("Notten") in view of the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models are kept confidential from customers."

Claims 7-12 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,016,047 ("Notten") in view of the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models are kept confidential from customers."

VII. ARGUMENT

Claims 1-5 and 7-12, for the reasons explained hereinafter, are not obvious under 35 U.S.C. 103(a); thus, the above-mentioned 103 rejections are improper, and they must be removed.

A. CLAIMS 1-5 ARE NON-OBVIOUS UNDER 35 U.S.C. 103(a)

Claims 1-5 are non-obvious under 35 U.S.C. 103(a) over U.S. Patent No. 6,016,047 ("Notten") in view of the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models

are kept confidential from customers," for the reasons stated below.

To reject claims in an application under section 103, an examiner must show a *prima facie* case of obviousness. *In re Deuel*, 51 F. 3d 1552, 1557, 34 U.S.P.Q.2D 1210, 1214 (Fed. Cir. 1995). Furthermore, all words in a claim must be considered in judging the patentability of that claim against prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). To establish a *prima facie* case of obviousness, the following three basic elements must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) the prior art reference or references when combined must teach or suggest all the claim limitations; and (3) there must be a reasonable expectation of success. MPEP § 2143. It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to full appreciation of what such reference fairly suggests to one skilled in the art. *Bausch & Lomb, Inc. v. Barnes-Hill/Hydrocurve, Inc.* 796 F. 2d 443, 230 U.S.P.Q. 416 (Fed. Cir. 1986). It is an error to reconstruct the patentee's claimed invention from the prior art by using the patentee's claim as a

blueprint. *Interconnect Planning Corp. v. Feil*, 774 F. 2d 1132, 227 U.S.P.Q. 543 (Fed. Cir. 1985). In addition, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention that is being modified, then the teachings of references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F. 2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). Finally, if an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F. 2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

First, the examiner has failed to establish a *prima facie* case of obviousness because, assuming *arguendo* that the teachings of Notten and the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models are kept confidential from customers," are combinable, their combined teachings fails to teach or suggest all of the required elements of the instant invention.

The instant invention according to Claim 1, as mentioned above, teaches a method for designing a customer driven charge storage device (CSD). The instant method requires a CSD customer inputted requirement selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range

of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost. The instant method further requires the inputted requirement to be passed through an interface to a hidden model. Finally, the instant method generates a CSD design.

As mentioned in the Background Section of the instant application, this invention is important because the process for design a CSD can be extremely time consuming. This method allows a customer to interact directly with proprietary CSD models to generate a CSD design for their specific needs, yet protects the CSD model owner (typically a battery manufacturer) from loss of their valuable trade secret information.

U.S. Patent No. 6,016,047 ("Notten") discloses a battery management system, i.e. a system to let the battery user know the State of Charge of the battery for controlling the charging and discharging of the battery (Column 1, Lines 5-15), a battery simulator (Column 1, Lines 16-24), a method for simulating a battery's behavior (Column 1, Lines 24-32), or a method of producing a battery by simulating a battery's behavior (Column 1, Lines 32-35).

The battery management system of Notten includes input means, processing means, and output means. (Column 8, Line 28-30; Column 9, Lines 1-2 and 18-20). The measuring means, i.e. a current measurer 122, a voltage measurer 124, and a temperature measurer 126, provides measured signals to input means of Notten's battery management system. (Column 7, Lines 59-63; Column 8, Lines 28-30; and Fig. 1). The measured input signals represent a physical quantity of the battery, i.e. current, voltage, and temperature. (Column 10, Lines 8-11). The processing means of the battery management system process the input signal(s) received via the input means. (Column 10, Lines 5-8). The processing means uses knowledge of a battery, in the form of a battery model, to generate an out put signal via the output means. (Column 10, Lines 19-21). The output means is derived from a calculated physical quantity of the battery, such as the State of Charge or temperature. For situations where the battery management system of Notten is not limited to one type of battery, the battery management system of Notten includes a specific model for each different type of battery supported by the battery management system. (Column 10, Lines 27-33). However, a communication system may be utilized to determine the battery type; or in the alternative, a user may specify the type of battery. (Column 10, Lines 33-39). Furthermore, Notten discloses a battery simulator that simulates the characteristics of a battery based on input design parameters that represent a

physical quantity of a battery, i.e. particle size of the electrode material, surface area of the electrode material, and composition of the electrochemically active species. (Column 25, Lines 15-65).

Furthermore, in each of the other variations of Notten, physical quantities, i.e. particle size of the electrode material, surface area of the electrode, composition of the electrochemical active species, resistance lowering material, and surface deposited materials (Column 5, Line 64 - Column 6, Line 8, Column 6, Line 64 - Column 7, Line 5, Column 25, Lines 33-65), are altered to determine an output characteristic, i.e. current, voltage, state of charge (column 3, lines 28-35), and temperature (Column 2, line 43)..

However, Notten fails to mention anything with regard to a customer inputted requirement being selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost. Furthermore, Notten fails to mention anything with regard to a design output for a charge storage device, and fails to mention anything with regard to the models being hidden from customers.

In the instant Application, the claimed invention, as mentioned above, requires at least one charge storage device customer inputted requirement. A customer is defined as "a person who buys goods or services, especially on a regular basis. The American Heritage Dictionary 357 (Mark Boyer ed., 2nd College ed., Houghton Mifflin Company 1991). Thus, the customer inputted requirement of the instant invention is an input requirement provided by a person. However, Notten fails to mention anything with regard to an input provided by a customer, i.e. a person.

Notten consistently discloses a measuring means, i.e. a current measurer, a voltage measurer, and a temperature measurer, which provides measured signals to its input means. (Column 7, Lines 59-63, and Column 8, Lines 28-30). Thus, the measured signal of Notten is an input signal provided by a measuring device vis-à-vis an inputted requirement provided by a person. Therefore, Notten fails to disclose the claimed customer inputted requirement of the instant invention.

Furthermore, the claimed invention, specifically requires that the CSD customer inputted requirement is selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor,

and cost. However, Notten's measured input signals only represent a physical quantity of the battery, i.e. current, voltage, and temperature. (Column 10, Lines 8-11). Thus, Notten also fails to disclose the claimed customer inputted requirement, which is selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost.

Additionally, the method according to the instant invention requires a model, which is adapted to convert the above-mentioned customer inputted requirement into at least one charge storage device design. A design is defined as "a preliminary sketch or outline showing the main features of something to be executed." *Webster's Third New International Dictionary*, p. 611 (Philip Babcock Gove ed., Merriam-Webster Inc., 1993). Accordingly, the charge storage device design of the instant invention could be, for example, a preliminary outline of the main features of a battery to be manufactured. The processing means of Notten, however, generates an output signal via Notten's output means. (Column 10, Lines 19-21). The output signal of Notten, as mentioned above, is derived from a calculated physical quantity of the battery, such as state of charge or temperature. (Column 10, Lines 21-23). Furthermore, a signal is defined as "an indicator serving as the

means of communication." *The American Heritage Dictionary*, p. 1139 (Mark Boyer ed., 2nd College ed., Houghton Mifflin Company 1991). Thus, the output signal of Notten is an indicator serving as means of communication which is derived from a calculated quantity of the battery, such as state of charge or temperature. This, clearly, is different than a preliminary outline of the main features of a battery to be manufactured; thus, Notten also fails to disclose the claimed charge storage device design of the instant invention.

Therefore, assuming *arguendo* that the teachings of Notten and the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models are kept confidential from customers," are combinable, their combined teachings fails to teach or suggest all of the required elements of the instant invention, i.e. a CSD customer inputted requirement, and generating a CSD design.

Second, the Examiner's reasoning is based on improper hindsight reasoning. Nowhere in Notten has the Examiner shown a CSD customer inputted requirement, which is selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost, or generating a CSD design. The Examiner simply

reconstructs the Applicant's claimed invention by using the Applicant's own claims as a blueprint. *Interconnect Planning Corp. v. Feil*, 774 F. 2d 1132, 227 U.S.P.Q. 543 (Fed. Cir. 1985). Additionally, the Examiner improperly takes the isolated portions of Notten out of its context to support his argument. *Bausch & Lomb, Inc. v. Barnes-Hill/Hydrocurve, Inc.* 796 F. 2d 443, 230 U.S.P.Q. 416 (Fed. Cir. 1986). For example, the Examiner refers to Column 1, Lines 1-35 and Column 10 Lines 5-46, and the Examiner, then, states that Notten teaches "model to convert at least one customer inputted requirement." (Office Action, Dated January 11, 2005, Page 2, 4th Paragraph). The Examiner takes the input signal of Notten and equates it to the customer inputted requirement of the instant invention. However, the Examiner fails to consider Column 7, Lines 50-63, to determine how the input signal of Notten is generated. Notten clearly teaches that the input signal, which is being converted to an output signal, is generated via measuring means 120, i.e. a current measurer 122, a voltage measurer 124, and a temperature measurer 126, provides the measured signals to input means of the battery management system. (Column 7, Lines 59-63; Column 8, Lines 28-30; and Fig. 1). Although, Notten discloses that a user may specify a battery type (Column 10, Lines 33-49), it is clear that this is not the type of input signal that is converted to an output signal as described in Notten. Therefore, the Examiner has taken the teachings of Notten out its context to

reconstruct the Applicant's claimed invention using the Applicant's claims as a blueprint. It is obvious that is no suggestion or motivation for the modification suggested by the Examiner; accordingly, the Examiner is in error.

Third, the proposed modifications of Notten's teachings would change its principle of operation; accordingly, Notten's teachings are not sufficient to render the instant claims *prima facie* obvious. *In re Ratti*, 270 F. 2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). As mentioned above, the instant invention requires a customer inputted requirement, and generates a CSD design. In order to achieve the instant invention based on the teachings of Notten, a person of ordinary skill in the art must make fundamental changes to Notten. For example, person of ordinary skill in the art must replace the measuring means 120, i.e. a current measurer 122, a voltage measurer 124, and a temperature measurer 126, with a mechanism that allows a person to generate the input. Furthermore, person of ordinary skill in the art must replace the output signal of Notten with a much more comprehensive output, i.e. a CSD design. These modifications require substantial changes to Notten's principle of operation; accordingly, Notten's teachings are not sufficient to render the instant claims *prima facie* obvious.

Therefore, the instant invention according to Claim 1 is non-obvious. Furthermore, Claims 2-5 depend from Claim 1; thus, Claims 2-5 are non-obvious.


B. CLAIMS 7-12 ARE NON-OBVIOUS UNDER 35 U.S.C. 103(a)

Claims 7-12 are non-obvious under 35 U.S.C. 103(a) over U.S. Patent No. 6,016,047 ("Notten") in view of the official notice taken by the Examiner, i.e. "it is well known fact that propriety information/parameters related to specifics of a software/models are kept confidential from customers," for the reasons stated above with regard to Claims 1-5.

C. CONCLUSION

In view of the foregoing, Applicant respectfully requests an early Notice of Allowance in this application.

Respectfully submitted,


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VIII. CLAIM APPENDIX

1. A method for charge storage device (CSD) customer driven charge storage device design comprising the steps of:

providing more than one model of a charge storage device, the model adapted to convert at least one CSD customer inputted requirement selected from the group consisting of energy density, cycle life, rate capability, impedance, temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost into at least one CSD design;

providing an interface, the interface being adapted to pass the CSD customer inputted requirement to the model, the interface being adapted to pass CSD design from the model, and the interface being adapted to hide the model;

wherein the CSD customer addresses the interface with the CSD customer inputted requirement, the interface directs the CSD customer inputted requirement to at least one of the models, the model generates the CSD design that passes through the interface to the CSD customer.

2. The method of claim 1 wherein the model is selected from the group consisting of first principles' models, empirically-based models, and hybrid models consisting of

combinations of first principles' models and empirically-based models.

3. The method of claim 1 wherein the CSD customer inputted requirement further comprised a plurality of CSD customer inputted requirements.

4. The method of claim 1 wherein the CSD design further comprises a plurality of CSD designs.

5. The method of claim 1 wherein the model further comprises a database, the model and the database being in communication.

6. (Cancelled).

7. A method for charge storage device (CSD) customer-driven charge storage device design comprising the steps of:
providing a CSD customer interface adapted for defining a CSD customer inputted test procedure for a desired charge storage device and defining a CSD customer inputted requirement for the charge storage device, the CSD customer inputted requirement being selected from the group consisting of energy density, cycle life, rate capability, impedance,

temperature range of operation and/or survival, safety requirements, storage life, self-discharge behavior, form factor, and cost;

providing a plurality of charge storage device models;

providing a routine capable of selecting at least one of the charge storage device models;

executing a simulation wherein the CSD customer test procedure, the CSD customer requirement, and the selected charge storage device model are combined to render a custom charge storage device design and the models are hidden from the CSD customer;

storing the custom charge storage device design; and
outputting the custom charge storage device design.

8. The method of claim 7 wherein the selecting routine being adapted for either CSD customer selection of routine selection based upon, at least in part, the CSD customer test procedure and the CSD customer requirement.

9. The method of claim 7 wherein the model further comprises a sizing program and a performance program.

10. The method of claim 7 wherein the model further comprises a sizing program, a performance program, and an abuse program.

11. The method of claim 7 wherein executing a simulation further comprises the step of optimizing the simulation.

12. The method of claim 7 wherein outputting the custom charge storage device design further comprises the step of reporting the design.

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IX. EVIDENCE APPENDIX

No other related evidence is being submitted.

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X. RELATED PROCEEDINGS APPENDIX

There are no other related proceedings.

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